Channel G

Compact

User Manual

McDOWELL SIGNAL PROCESSING, LLC

McDSP Channel G Compact Plug-In Manual

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from the entire McDSP development team.

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Getting Started with Channel G Compact

Each McDSP plug-in is delivered inside an installer application, and uses the Interlok copy protection software to authorize each plug-in. This section describes how to install and authorize a McDSP plug-in. General system requirements are also described.

System Requirements

McDSP HD, Native, and LE plug-ins are compatible with Pro Tools™ HD, HD Accel TDM systems, as well as Pro Tools™ LE and Pro Tools™ M-Powered host based systems. McDSP plug-ins support Mac OS 10.4.x (Tiger), 10.5.x (Leopard), Windows XP and Vista and require Pro Tools 7.x, 8.x or greater. McDSP plug-ins require an iLok USB Smart Key.

Configurations

McDSP plug-ins are available in TDM, RTAS, and AudioSuite configurations. See individual products for specific available configuration sets.

Applications

Pro Tools™ 7.x, 8.x or higher is required for TDM, LE, and M-Powered systems. Additionally, a third party software application that supports the Digidesign TDM, RTAS, or AudioSuite plug-in standard may be supported. See http://www.digidesign.com/developers/plugin_info/ for more information.

McDSP plug-ins are compatible with the entire Pro Tools™ 7 and 8 product line.

Hardware

McDSP plug-ins support any Digidesign or approved third party hardware supported in Pro Tools™ 7.x, and 8.x. This includes HD, HD Accel, 003, and Mbox host based systems. All McDSP HD plug-ins, except Synthesizer One, also support the Digidesign VENUE D-SHOW systems. See http://www.digidesign.com/compato/ for more specific information.

The McDSP Mac versions are compatible with both Intel and PowerPC based computers. The McDSP Windows versions require an Intel Pentium 4 or greater processor.*

** McDSP Windows test machines are chosen to follow the Digidesign recommended systems guide, which currently is the Dell Precision™ Workstation 670 with 2.79 GHz Xeon processor. All products are guaranteed to run on that system. Older Intel processors (i.e. Pentium III and predecessors) and AMD processors are not officially supported, although some users have had limited success with newer AMD processors (i.e. Dual Opteron 1.79 GHZ, Athlon 64 2.20 GHz, and Athlon 64 XP 3700). None of our XP product line will work with Pro Tools™ 5.x. Also note that McDSP Windows product line does not support MIX, although RTAS versions will work if they exist and the rest of your system (i.e. Pro Tools™ version and processor) is compatible.*

Please visit mcdsp.com for the latest information about compatibility.

Installing the Channel G Compact Plug-In

Installation on Mac OS X

The Channel G Compact plug-in Package includes this manual, ReadMe and Release Notes, a folder of presets for the Channel G Compact plug-in, and the Channel G Compact plug-in. Two copies of the Channel G Compact Licensing Agreement are included - one in this pdf manual and a second as a separate text file. The Channel G Compact plug-in manual requires that Adobe Acrobat reader (or similar .pdf reader) is installed.

Both online and boxed version will come with a Channel G Compact installer that will automatically install the Channel G Compact plug-in and its presets on your system. The authorization of the Channel G Compact plug-in is still required after running the installer, and those steps are detailed in the following sections.

Installing the Channel G Compact plug-in and presets with the Installer:

The online version of the package has been prepared for Internet delivery, and is transmitted as a compressed file in zip format (.zip). In Mac OS X 10.4.x or 10.5.x, simply double click the *.zip file to unpack the installer. The boxed plug-in package purchased at your local dealer will be on CDROM. As with the online version, these 'physical' versions of the Channel G Compact plug-in package should be copied into a local folder on your system.

- Insert the McDSP 'HD Disk,' 'Native Disk,' or 'LE Disk' CDROM onto an available CDROM drive.
- Navigate to the Channel G Compact plug-in folder on the CDROM - the installer application is contained therein.
- Run the Channel G Compact plug-in Installer application to install (copy) the Channel G Compact plug-in, presets, and documentation to a local folder on your system. The plug-in will be placed in the 'Plug-Ins' folder, and the presets will be placed in the 'Plug-Ins Settings' folder.
- If a previous version of the Channel G Compact plug-in (or other HD, Native, or LE version) was already in the plug-ins folder, it will automatically be updated (or replaced) by the installer.

Re-installing the Channel G Compact plug-in presets manually:

In you wish to restore the factory default presets, it may be useful to know how to manually re-install only the presets.

- Go to the 'Plug-in Settings' folder:
- Root->Library->Application Support->Digidesign->Plug-in Settings
- If Pro Tools™ has not already done so for you, create a folder called 'Channel G Compact'.
- Place a copy of the folder from the Channel G Compact plug-in package called 'Presets' into the 'Channel G Compact' folder. The presets are now viewable (after restarting Pro Tools™) from the settings popup menu from the Channel G Compact plug-in.

Note it may be necessary to re-start Pro Tools™ in order for the newly added 'Presets' folder to be viewable from the Settings popup inside the Channel G Compact plug-in window toolbar.

Installation on Windows XP and Vista

The Channel G Compact plug-in Package includes this manual, ReadMe and Release Notes, a folder of presets for the Channel G Compact plug-in, and the Channel G Compact plug-in. Two copies of the Channel G Compact Licensing Agreement are included - one in this pdf manual and a second as a separate text file. The Channel G Compact manual requires that Adobe Acrobat reader (or similar .pdf reader) is installed.

Both online and boxed version will come with a Channel G Compact installer that will automatically install the Channel G Compact plug-in and its presets on your system. The authorization of the Channel G Compact plug-in is still required after running the installer, and those steps are detailed in the following sections.

Installing the Channel G Compact plug-in and presets with the Installer:

The Channel G Compact plug-in package purchased at your local dealer will be on CDROM and contain a Windows self extracting executable (.exe) similar to the online Channel G Compact plug-in package prepared for Internet delivery. Both the boxed and online versions the Channel G Compact plug-in executable file will automatically install the plug-in and its presets on your system. Double click the file to launch the installer which will install the Channel G Compact plug-in, presets, and documentation. At any time after installation, you may access the documentation from the Windows 'Start Menu' under the 'McDSP' group.

Authorization of the Channel G Compact plug-in is still required after running the installer, and those steps are detailed in the following sections. Note that after installing new versions of the PACE iLok drivers with the Channel G Compact plug-in installer, you will be prompted by the Channel G Compact plug-in installer to reboot your system. If you are not prompted by the installer, there is no need to reboot.

- Insert the McDSP 'HD Disk,' 'Native Disk,' or 'LE Disk' CDROM onto an available CDROM drive.
- Navigate to the Channel G Compact plug-in folder on the CDROM - the installer application is contained therein.
- Run the Channel G Compact plug-in Installer application to install the Channel G Compact plug-in, presets, and documentation to a local folder on your system. The plug-in will be placed in the 'Plug-Ins' folder, and the presets will be placed in the 'Plug-Ins Settings' folder.
- If a previous version of the Channel G Compact plug-in (or other HD, Native,

or LE version) was already in the plug-ins folder, it will automatically be updated (or replaced) by the installer.

Re-installing the Channel G Compact plug-in presets manually:

In you wish to restore the factory default presets, it may be useful to know how to manually re-install only the presets.

- Go to the Plug-In Settings folder:
- C:\Program Files\Common Files\Digidesign\DAE\Plug-In Settings\
- If Pro Tools™ has not already done so for you, create a folder called 'Channel G Compact'.
- Place a copy of the folder from the Channel G Compact plug-in package called 'Presets' into the 'Channel G Compact' folder. The presets are now viewable (after restarting Pro Tools™) from the settings popup menu from the Channel G Compact plug-in.

Note it may be necessary to re-start Pro Tools™ in order for the newly added 'Presets' folder to be viewable from the Settings popup inside the Channel G Compact plug-in window toolbar.

Installation on VENUE D-SHOW systems

The Channel G Compact plug-in Package for VENUE D-SHOW systems includes presets for the Channel G Compact plug-in and the Channel G Compact plug-in. The Channel G Compact Licensing Agreement is displayed when installing the product on D-SHOW. The pdf manual can be obtained by running the Mac OS X or Windows XP/Vista version of the Channel G Compact Pro Tools plug-in installer on any available computer.

Both online and boxed versions will come with a VENUE compatible installer that will automatically install the Channel G Compact plug-in and its presets on your system. The authorization of the Channel G Compact plug-in is still required after running the installer, and those steps are detailed in the following sections.

Note that all McDSP HD plug-ins, except Synthesizer One support the Digidesign VENUE D-SHOW system.

Installing the Channel G Compact plug-in and presets on VENUE with the 'HD Disk':

The boxed Channel G Compact plug-in package purchased at your local dealer will contain a CDROM titled 'HD Disk' that is specially formatted to work with your VENUE console. The VENUE installers are also available online as a compressed zip file download, however you will have to take additional steps to create your own VENUE installer CD-R, see additional instructions below before proceeding with these instructions. Both the boxed and online versions of the Channel G Compact installer are the same and will install both the plug-in and its presets on your system.

Note that after installing new versions of the PACE iLok drivers with the Channel G Compact plug-in installer, you will need to reboot your system. You will not be prompted to reboot, and if you don't you may see an error message saying "TPkd driver required, and a reboot. Please reboot or reinstall the software.' If you see this message, simply reboot the console and try again.

- Insert the McDSP 'HD Disk' CDROM onto the CD drive. Note that neither the McDSP 'Native Disk' nor the 'LE Disk' contains VENUE compatible installers.
- Ensure your system is in 'CONFIG' mode, you cannot install plug-ins in 'SHOW' mode.
- Navigate to the 'OPTIONS' page and then select the 'PLUG-INS' tab.
- You should now see the Channel G Compact plug-in available on the left hand side.

- Select the Channel G Compact plug-in and select 'INSTALL.'
- If a previous version of the Channel G Compact plug-in was already installed, it will be updated by the installer.

Important note *for FilterBank HD and CompressorBank HD on VENUE D-SHOW consoles: The first time you instantiate either of these plug-ins, a dialog box will appear asking you to choose a user interface preference. Choose the Knobs interfaces, as some of the Slider interfaces are too large for the VENUE display.*

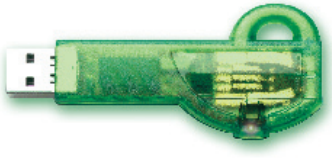
Creating a VENUE D-SHOW Installer CD-R from the online zip file:

If you do not have a boxed copy of Channel G Compact with the included 'HD Disk' CDROM, you can still obtain a copy of the VENUE compatible installers from the www.mcdsp.com website. Once you have located and downloaded the latest VENUE compatible installers from the McDSP website, you will have to take several additional steps to create a VENUE compatible Installer CD-R. For your convenience, all VENUE compatible products are located in the same downloadable zip file, so you will only have to create one CD-R to install all compatible McDSP products.

- Unzip the downloaded file and locate the folder named "TDM Plug-Ins" inside the unpacked folder.
- Using any CD-R burning application, burn this folder and its contents to an ISO format CD-R. It is recommended that you use a brand new CD-R for this, and do not rewrite an older CD-R.
- Once you have burned this folder to a CD-R, you should see it at the root level of the disk (i.e. "D:\TDM Plug-Ins"). Important: If the "TDM Plug-Ins" folder is not located at the root level of the CD-R or has been renamed, the VENUE console may not properly recognize the installer disk.
- At this point, you can follow the 'HD Disk' installation instructions above to complete the installation.

Authorizing your McDSP Plug-Ins

Authorizing with a pre-programmed iLok Smart Key



McDSP bundles such as the Emerald Pack come with a pre-programmed iLok Smart Key. Simply insert the iLok into any available USB port on your computer. The iLok's indicator light will illuminate when the iLok has a proper connection. The Plug-Ins included in the bundle require no further authorization steps. As with any iLok on your system it is recommended that your iLok be registered and synchronized with iLok.com

Authorizing with an iLok License Card

All McDSP Plug-Ins require that a valid authorization is present on your iLok USB Smart Key. McDSP Plug-ins that are purchased individually provide this authorization on a plastic License Card (about the size of a credit card), with a small punch-out iLok License Chip. After being separated from the License Card, this iLok License Chip is to be inserted into the 'key slot' of the iLok USB Smart Key in order to transfer the authorization from the License Card to the iLok USB Smart Key. Note that each License Card holds ONE Plug-In authorization. The following instructions detail this process

Important Note: The Authorization Wizard will prompt the user to register their iLok USB Smart Key at iLok.com. iLok.com is a service offered by PACE Anti-Piracy, Inc. and this step is recommended but NOT REQUIRED by McDSP to complete the authorization of the Plug-In. If you choose to register your iLok USB Smart Key at iLok.com, care must be taken to record your ilok.com account information (i.e. write down your User ID and Password in a safe place). If your iLok.com account information is lost, the iLok cannot be registered to another account and unfortunately there is nothing McDSP can do to help you. See iLok.com for more details about the benefits of using PACE's iLok.com service.

Note: Images in this section are for illustration only, the actual product and screens will be the name of the product you are authorizing.

Authorizing a McDSP Plug-In from a License Card with the Authorization Wizard:

The Authorization Wizard is used to install an authorization from a License Card to the iLok USB Smart Key. To use the Authorization Wizard for the Plug-In you purchase, perform the following steps:

- Insert your iLok USB Smart Key into an available USB port.
- On a Mac :Locate and launch the 'Authorizer' application found in the 'Authorize' folder in the Plug-In package for the McDSP Plug-In you purchased on the CD-ROM.
- On Windows XP or Vista, just launch Pro Tools™ to authorize the individual McDSP Plug-In you purchased.

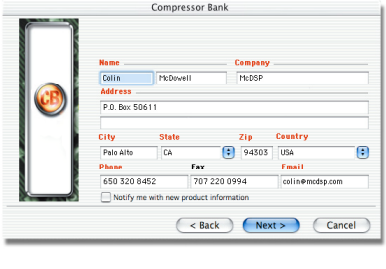
Note: When authorizing the Plug-In on Windows XP or Vista with a new iLok USB Smart Key, you must insert the iLok USB Smart Key and complete the Windows 'Found New Hardware Wizard' before attempting to authorize the Plug-In.

- Select the 'Authorize' button to be guided through the Authorization Wizard.

Compressor Bank
This Plug-In must be authorized with an iLok. An iLok License card is included in the Plug-In package. The iLok USB dongle may be purchased separately if one was not supplied with your system.
To authorize, select the "Authorize" button to be guided through the process. This version of software does not have a demonstration period.
Authorize
Quit

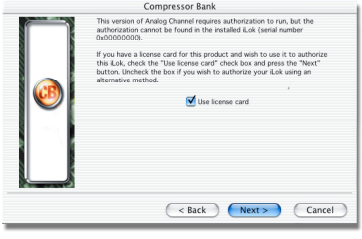
Note: Selecting the 'Quit' button at any time will not authorize the Plug-In or allow it to be used for a trial period. If 'Quit' is selected, the Plug-In will not be available in the Pro Tools™ insert menu.

- McDSP Plug-Ins require that the user personalize their copy of the Plug-In. A dialog is displayed soliciting this information.



Note that the product registration card enclosed with the Plug-In MUST ALSO be filled out as well and returned to McDSP via mail (or fax to 707-220-0994). This additional mail-in registration will entitle the user to future upgrades and advance information from McDSP.

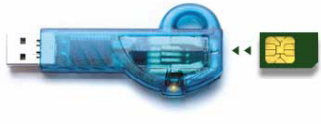
- Once the Plug-In is personalized, click the 'Next' button to continue.
- Check the 'Use License Card' box and press the 'Next' button (figure 2.3).


Compressor Bank
This version of Analog Channel requires authorization to run, but the authorization cannot be found in the installed iLok (serial number 0x00000000).
If you have a license card for this product and wish to use it to authorize this iLok, check the "Use license card" check box and press the "Next" button. Uncheck the box if you wish to authorize your iLok using an alternative method.
Use license card
< Back
Next >
Cancel

Note: Although the Authorization Wizard may appear to allow authorization by challenge/ response, that method is currently NOT SUPPORTED McDSP Plug-Ins.

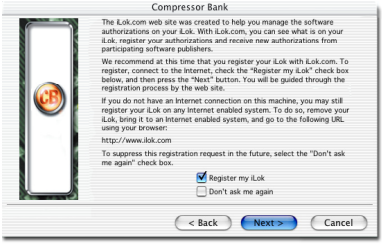
- Separate the small punch-out iLok License Chip (the removable metal and plastic tab) from the License Card by pushing the cutout up and out with your thumb. Do not force your finger downward.

- The iLok License Chip may now be inserted into the 'key slot' of the iLok USB Smart Key (figure 2.6). If the iLok USB Smart Key does not appear to be present on the system, ensure the iLok USB Smart Key is connected to a valid USB port and that the green LED is lit inside the iLok USB Smart Key. To insert the License Chip into the iLok USB Smart Key, orient the iLok USB Smart Key's USB end to the left, and the loop end to the upper right. Insert the metal chip end of the iLok License Chip (the License Chip tab should have the metal chip side facing up towards you, not down). You should be able to visually verify that the License Chip makes contact with the iLok USB Smart Key metal card reader.



- The green LED in the iLok USB Smart Key will light when it is ready to receive and transmit data.
- Upon inserting the iLok License Chip, a message will be displayed indicating the authorization was installed successfully. Click 'Ok' in the message dialog.

Authorization Successfully Installed
Authorization to run Compressor Bank has been successfully installed from your license card to your iLok (serial number 0x00000000).
OK


Compressor Bank
The iLok.com web site was created to help you manage the software authorizations on your iLok. With iLok.com, you can see what is on your iLok, register your authorizations and receive new authorizations from participating software publishers.
We recommend at this time that you register your iLok with iLok.com. To register, connect to the Internet, check the "Register my iLok" check box below, and then press the "Next" button. You will be guided through the registration process by the web site.
If you do not have an Internet connection on this machine, you may still register your iLok on any Internet enabled system. To do so, remove your iLok, bring it to an Internet enabled system, and go to the following URL using your browser:
http://www.ilok.com
To suppress this registration request in the future, select the "Don't ask me again" check box.
Register my iLok
Don't ask me again
< Back
Next >
Cancel

- Once the authorization is installed on the iLok USB Smart Key, a dialog is displayed prompting the user to register their iLok USB Smart Key at the www.ilok.com website. The iLok.com website was created to allow users to manage the software authorizations on their iLok USB Smart Key. THIS STEP IS NOT REQUIRED TO COMPLETE THE AUTHORIZATION OF MCDSP SOFTWARE. The registration of the iLok USB Smart Key to an iLok.com account can be bypassed by clearing the checkbox. The user may also choose to not be asked to register again. While iLok.com is a great resource for the iLok USB Smart Key, your iLok USB Smart Key may only be linked to one iLok.com account. That is, an individual iLok USB Smart Key can only be registered to one account at a time--but a single account can have multiple iLok USB Smart Keys. If the iLok.com account information is lost, the iLok USB Smart Key cannot be registered to another account. However, an iLok USB Smart Key may be transferred between accounts if all the authorizations have been transferred off the iLok USB Smart Key. Register the iLok USB Smart Key to an iLok.com account only when you are ready to retain all the needed iLok.com account information (User ID and Password).
- A 'Finished' dialog is displayed showing what authorization method was used.
- Click 'Finish' to exit the Authorization Wizard.

Authorizing with iLok.com

Required for demo, upgrade, and replacement authorizations only

iLok.com can be accessed from any Macintosh or PC with an Internet connection. You can do this at home, a friend's, or at the office as long as there is an internet connection to access iLok.com--note that you don't have to use your ProTools system computer! You simply use this computer to connect to iLok.com and transfer authorizations to your iLok Smart Key. The iLok Smart Key can then be moved to your ProTools system to complete authorization of your Plug-In.

You will need:

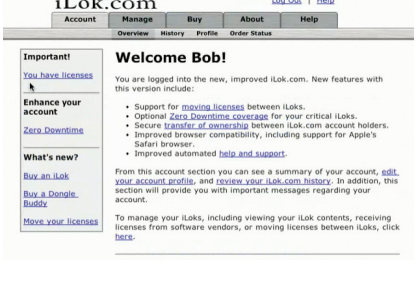
- A computer with an Internet connection. Either a Macintosh running OS 9.2 to OS 10.3 or a PC running Windows 98, ME, 2000, XP, or Vista
- An iLok USB Smart Key
- A valid iLok.com account. Visit www.iLok.com and set up a free account, if you have not already done so.

1) Download and install the required client software from iLok.com.

2) Download the desired McDSP Plug-In Installer from:
http://www.mcdsp.com/support/updating.html

3) To receive an upgrade or replacement authorization, send email your iLok.com account information to: support@mcdsp.com
To receive a demo authorization, email your iLok.com account information to: authorize@mcdsp.com

Insert your iLok Smart Key into an available USB port and ensure that the indicator light is lit. Once your demo, upgrade, or replacement authorization is available for transfer, your iLok.com account will display the notice saying "You have licenses" on the upper left. Begin by selecting that link.


iLok.com v2.0
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Account
Manage
Buy
About
Help
Overview
History
Profile
Order Status
Important!
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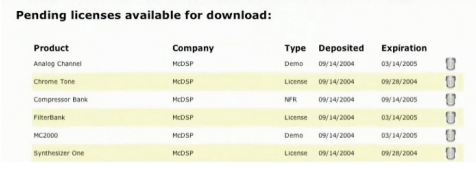
Enhance your account
Zero Downtime
What's new?
Buy an iLok
Buy a Dongle Buddy
Move your licenses
Welcome Bob!
You are logged into the new, improved iLok.com. New features with this version include:
Support for moving licenses between iLoks.
Optional Zero Downtime coverage for your critical iLoks.
Secure transfer of ownership between iLok.com account holders.
Improved browser compatibility, including support for Apple's Safari browser.
Improved automated help and support.
From this account section you can see a summary of your account, edit your account profile, and review your iLok.com history. In addition, this section will provide you with important messages regarding your account.
To manage your iLoks, including viewing your iLok contents, receiving licenses from software vendors, or moving licenses between iLoks, click here.

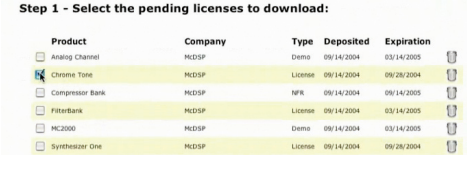
The next page will display the pending licenses available for download. This page will also display the name of the Plug-In, its manufacturer, the type of authorization (demo, Not For Resale, or License), the date the authorization was deposited, and the date when the authorization will no longer be available for download from the server.



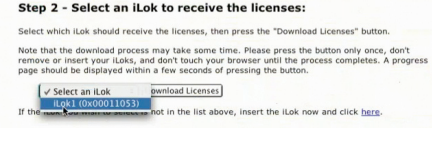
Before any transfer of authorizations can take place, you must synchonize your iLok Smart Key with iLok.com. This may take a moment to process depending on your internet connection.

Insert your iLoks and synchronize:
Before downloading licenses, you must insert one or more iLoks as needed and press the "Synchronize" button. Once your iLoks are synchronized with your account, you will be able to select the licenses to download and the target iLok to receive the licenses.
Note that the synchronization process may take some time. Please press the button only once, don't remove or insert your iLoks, and don't touch your browser until the process completes. A progress page should be displayed within a few seconds of pressing the button.
Synchronize

Once you have synchronized your iLok, you can select the authorization(s) you wish to transfer to your iLok.



If you have multiple iLoks connected to your computer, it is important to select the correct iLok you wish the authorizations to be transferred to. Then click "Download Licenses" to begin the process. Again, this may take a moment depending on your internet connection.


Step 2 - Select an iLok to receive the licenses:
Select which iLok should receive the licenses, then press the "Download Licenses" button.
Note that the download process may take some time. Please press the button only once, don't remove or insert your iLoks, and don't touch your browser until the process completes. A progress page should be displayed within a few seconds of pressing the button.
✓ Select an iLok
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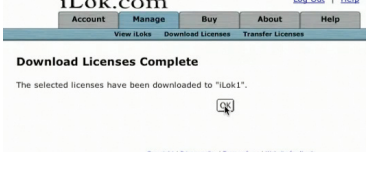
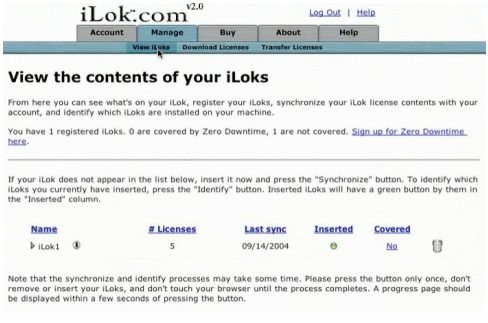
here.

When the transfer finishes you will be asked to confirm the completition of the transaction, thereby letting you know that the transfer was successful.



If you wish to go back into your account and visually confirm the transaction for yourself, select “View iLoks” Then select the iLok you had the authorizations transferred to.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Manage
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Help
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From here you can see what's on your iLok, register your iLoks, synchronize your iLok license contents with your account, and identify which iLoks are installed on your machine.
You have 1 registered iLoks. 0 are covered by Zero Downtime, 1 are not covered. Sign up for Zero Downtime here.
If your iLok does not appear in the list below, insert it now and press the "Synchronize" button. To identify which iLoks you currently have inserted, press the "Identify" button. Inserted iLoks will have a green button by them in the "Inserted" column.
Name
Licenses
Last sync
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Covered
iLok1
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No
Note that the synchronize and identify processes may take some time. Please press the button only once, don't remove or insert your iLoks, and don't touch your browser until the process completes. A progress page should be displayed within a few seconds of pressing the button.

That’s it! Dont forget to logout and move the iLok Smart Key to your ProTools System if you are using another computer for Internet access. Also, you may need to install a different version of the Plug-In if you are upgrading or replacing.

Transferring Authorizations with iLok.com

You may freely transfer any authorization within your iLok.com account between any of your registered iLok Smart Keys. If you wish to transfer an authorization out of your iLok.com account to a different user, it will require additional support from PACE Anti-Piracy, Inc and may be subject to a service fee or limited by manufacturer restrictions. Check the www.ilok.com website for updates and developments regarding iLok USB Smart Keys and the Pace Interlok Copy Protection system.

Registering your McDSP Plug-In

To register your McDSP Plug-In, fill out and return the product registration card enclosed with the boxed Plug-In package by mail or fax 707-220-0994. Registering your product entitles you to future upgrades and advance information from McDSP. Each individual product must be registered (even if you have multiple copies), and the product must be registered to an individual, not an entity. If you represent a company it is your company's responsibility to notify McDSP in writing if the individual who registered the Plug-In is no longer with the company. The Company must also be able to supply matching registration information to successfully transfer ownership of the Plug-In.

Using your McDSP Plug-Ins

Starting a McDSP Plug-In:

Follow the installation, authorization, and registration instructions above, Launch Pro Tools™, and the McDSP Plug-In and its presets are ready for use. Refer to the Digidesign™ Pro Tools™ Reference Guide for details on general Plug-In operation such as automation.

Exiting a McDSP Plug-In

A McDSP Plug-In is exited by clicking on the desktop or other window in the DAE application running the Plug-In, closing the Plug-In window, or de-instantiating the Plug-In. Pro Tools™ sessions will save instantiated Plug-In configurations and their settings. Refer to the Digidesign™ Pro Tools™ Reference Guide for details on general Plug-In operation.

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Channel G Compact

Channel G Compact, the complete dynamics and equalization console for ProTools.

The **Channel G Compact Dynamics** configuration uses ultra high-resolution level detection in its Compressor/Limiter sections to give accurate handling of the most complex material. The compressor/limiter has a continuous ratio control, complemented by a knee control designed to smooth the transition into the compression action. These controls allow the Channel G Compact compressor to be used extensively without a heavily compressed sound. Attack times as fast as 0.001 msec for instantaneous compression action up to sample rates as high as 100 kHz. Channel G Compact supports sample rates as high as 200 kHz. The filter section has high and low pass filters with slopes of 12 and 24 dB/oct.

The **Channel G Compact Equalizer** is based on the original design found in McDSP's award winning FilterBank plug-in. Improvements include a greater boost/cut range and switch-able shelving-parametric EQ sections. There are 4 bands of parametric EQ, and the LF and HF bands are switchable to shelving EQ. Like all Channel G configurations, the EQ section control layout matches exactly to the center section of the Digidesign D-Control, D-Command and ICON work surface.

In addition to the extensive dynamics, filtering, and equalization capabilities of Channel G Compact, there are also models of world famous mixing desks. Control calibrations are adjusted for each desk 'mode', allowing a user familiar with the original analog consoles to be immediately intimate with the equalizer and dynamics facilities of Channel G Compact. The total integration of Channel G Compact with the Digidesign D-Control work surface, as well as other popular control surfaces like ProControl, D-24, Command 8, and Digi 002, converts the Digidesign DAW experience into that of an analog mixing console. Channel G Compact provides the sound and functionality of world class analog mixing consoles combined with the flexibility and scalability of a software plug-in.

Feature List:

- High pass and low pass filters with 12 and 24 dB / Oct slopes
- Full featured Compressor/Limiter
- Four-band EQ with shelving and parametric sections
- Compressor/Limiter operation pre and post EQ section
- Analog Saturation Modeling
- Double precision processing
- Ultra low latency
- Mono and stereo versions

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The Quick Start Tour: Channel G Compact

Start Protools™ and Instantiate the Channel G Compact Dynamics Configuration

- Launch Protools™ and Open a Protools™ Session.
- Verify the Display-> Mix Window Shows->Inserts View option is checked.
- In one of the inserts of a stereo master fader, select the Channel **G Compact Dynamics** stereo configuration. On another insert select the Channel **G Compact Equalizer** stereo configuration. Note the Channel G Compact plug-in will operate on master or regular audio tracks in mono or stereo versions.
- If the insert selection does not show Channel G Compact plug-ins, verify that the Channel G Compact plug-in has been installed correctly.
- For more information on starting ProTools™ and working with plug-ins, see Digidesign's™ ProTools™ Reference Guide

Channel G Compact Overview

Flow Diagram

Selectable in the GPH Dynamics and G Console configurations via the 'GPH' and 'SIG' buttons, the Flow Diagram (press 'SIG') shows all signal paths, routing, and inline status of all sections. Key signal flow is also displayed, along with the 'active' status of the selected key. When the user selects a key input such as a buss, if there is nothing routed to that buss the key signal path remains unlit. Once signal is routed to the selected key track, the signal path glows to indicate the presence of an actual key signal.

Knobs

To adjust any of the controls with knobs you can:

- Click and drag the knobs (note the knob will respond to left/right or up/down mouse movement, and will lock to the left/right or up/down movement once the mouse is dragged beyond the knob graphic - this significantly reduces control jittering commonly found in knob controls)
- Hold the <Command> key while dragging the knobs for fine control
- Click on the text box to highlight and edit the numeric value to get precise control (if a value outside the valid range is input, the control will default to the nearest allowed value when enter is hit) and hit <Enter>
- Click on the text box to highlight the numeric value and then use the arrow keys to increase or decrease the numeric value
- Use the <Option> key to bring all the controls to their default values
- Use hardware controller surfaces supported by Channel G Compact including Digidesign's ICON, VENUE, Profile, ProControl™ and Control-24 and the Mackie HUI.

Graph Display Option

GPH - Response Plots

SIG - Signal Path Flow Diagram

Radio Buttons

Give a choice of parameters to choose from and are grouped. Choose one setting.

Bypass Control Button

Toggle control that takes the section 'in' or 'out' of the audio processing path.

- The green light indicates the section is in;
- When the light is off, the section is bypassed.

The Meters

The Channel G Compact plug-in has a 'Metering Center Section' to display input levels, Compressor/Limiter gain reduction, and output levels.

Automation

All Channel G Compact controls are completely automatable. See the Digidesign™ ProTools™ Reference Guide, Automating plug-ins section.

Presets: Using the Presets and Making Your Own

The Channel G Compact presets are designed as 'roughs' for various analog mixing console applications. The presets can be accessed from the ProTools ™ "plug-in Librarian" and "plug-in Settings" pop-up menus.

To make and save your own presets, see the "plug-in Librarian Functions" section of Digidesign™ ' s DigiRack plug-ins Guide.

A Word on Preset Compatibility

Presets for Channel G, Channel G Compact, and Channel G Surround are interchangeable. Settings created from one configuration will affect the like-named controls in another.

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Channel G Compact Overview

The Channel G Compact Dynamics configuration includes a Compressor/Limiter, separate input and output controls, and two fully sweep-able filters. The Compressor/Limiter can key from the original input (un-filtered), the side chain input, or the output of the two filters. The filters can take their input from the original input or the side chain. The two filters can also be placed inline so their effect on the signal is heard at the output.

As with all Channel G configurations, most controls are mirrored in the actual Digidesign ICON (D-Control) EQ and Dynamics center sections, allowing users unprecedented integration between this hardware controller and audio processing software.

Channel G Compact Overview

Response Plots/Flow Diagram

The G Dynamics configuration displays the transfer function of both the Expander/Gate and Compressor/Limiter, and the frequency response of the Filter section. The user can also select to view the flow diagram display mode to show all signal routing paths.

Meters

The Channel G Compact plug-in has a 'Metering Center Section' to display input and output levels, along with Compressor/Limiter gain reduction, and Compressor/Limiter output levels.

In/Out

The G Dynamics configuration, like all Channel G Compact configurations, has dedicated Input and Output controls.

Dynamics Filters

The G Dynamics Filter section is two independent fully sweepable filters. Each filter has a selectable slope (up to 12 or 24 dB/Oct) and filter type control.

Comp/Limiter

The Channel G Compact Compressor/Limiter meets all the needs and requirements of modern post production while retaining the needed musicality for music applications.

Equalizer

The G Equalizer has five EQ bands (LF, LMF, HMF, HF). The LF and HF bands have an EQ type control.

Channel G Compact Control Overview

Channel G Compact has a full featured 4 band paramteric EQ, identical to the one found in the original Channel G (save the removal of the MF band and dedicated filters). The LF and HF bands of the EQ also have type controls used to switch the EQ type between parametric and shelf shapes. There are peak indicators for the EQ bands to show when signal levels are at maximum. A bypass control for the entire EQ section is also provided.

Input/Output

Channel G Compact, like all Channel G configurations, has dedicated Input and Output controls.

- **Input** – the amount of gain applied to the signal before it reaches the Expander/Gate and Filter sections.
- **Output** - the amount of gain applied to the signal after the Compressor/Limiter Makeup Gain. The signal polarity (phase) may also be adjusted at this stage in the processing.

Compressor/Limiter

The Channel G Compact Compressor/Limiter meets all the needs and requirements of modern post production while retaining the needed musicality for music applications. The Compressor/Limiter controls are:

- **Key** – selects the signal used to cause the Compressor/Limiter to begin reducing signal dynamics range once it exceeds the selected threshold. The choices are the original input, the output of the Compressor/Limiter itself, the side chain (key) signal, or the output of the Filter section.
- **Knee** – the shape of the compression curve. The greater the Knee control value, the smoother the transition into the compression zone above the selected threshold. There are several additional Knee control modes that model specific compressors found in analog mixing consoles.

- **Ratio** – the slope, or input to output ratio of the Compressor/Limiter . When this control is near its maximum (100:1) the process acts as a Limiter. Some of the more standard compression ratios are 2:1 to 10: 1.
- **Attack**- the rate at which the Compressor/Limiter begins to reduce the dynamic range of the input signal as it exceeds the selected threshold.
- **Release**- the rate at which the Compressor/Limiter stops reducing the dynamic range of the input signal as it goes below the selected threshold.
- **Gain**- the amount of makeup gain applied to the signal after the dynamic range reduction. Note the relation to the master output of the plug-in; if the Compressor is used as the key signal, this gain is applied BEFORE the signal is fed back.
- **Threshold**- the signal level that must be exceeded in order for the Compressor/Limiter to start reducing the input signal dynamic range.
- **Compressor/Limiter** In – the switch that engages or bypasses the Compressor/Limiter algorithm.
- **EQ Comp Routing** In – selects the order of the compressor and equalizer sections. Selecting 'pre' places the compressor before the EQ, selecting 'post' places the compressor after the EQ.

Equalizer

The G Equalizer has four EQ bands (LF, LMF, HMF, HF). The LF and HF bands have an EQ type control. The controls are:

- EQ Type- (LF and HF only) toggles between parametic and shelving EQ.
- Gain- the amount of boost or cut in dB for each EQ band.
- Freq- the center frequency or cutoff frequency of the parametric or shelving EQ.
- Q/Slope- the width of the parametric EQ bell, or slope or dip of the shelving EQ in certain modes.

Dynamics Filters

The G Dynamics Filter section is two independent fully sweepable filters. Each filter has a selectable slope (up to 24 dB/Oct) and filter type control. The Filter section controls are:

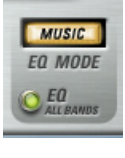
- **Filter Input**- selects the input to the Filter section – the original input signal or the side chain input.
- **Filter Type**- toggles between high pass filter (HPF) and notch filter types in the Low Filter, and between low pass filter (LPF) and notch filter types in the Hi Filter section.
- **Freq**- the center frequency or cutoff frequency of the filter.
- **Q/Slope**- the width of the notch filter or slope of the HPF or LPF filter. Togogles between 12 and 24 dB/Oct choices in Channel G Compact (Channel G has 6, 12, 18, and 24/Oct options)

EQ Mode

The Channel G Compact Equalizer has the ability to model not only the responses of EQ previously only found on world class analog mixing consoles, but will also match the calibrations of those Equalizers.

In all the EQ modes, the HPF and LPF frequency and slope ranges are not affected. While many modeled consoles had more restricted values, McDSP chose to leave the maximum amount of control for these bands for the greatest utility.

MUSIC	The shelf shape in the 'Music' EQ console mode are designs unique to McDSP, based on one of the most popular Peak-Slope-Dip settings from our award winning FilterBank plugIn. The parametric bands have a good Q range (1.0 to 12.0), and the band overlap is geared towards the creative equalization needs of music production.
POST	Another design unique to McDSP, this shelf mode has the steepest of all the various EQ shelf modes available in Channel G Compact. The parametric bands have the widest Q range of all the modes: 0.4 to 16.0. The overlap is nearly complete, with the bands' low ranges only 40 Hz apart, and each spanning 2 decades.
E	This EQ config is derived from measurements taken of various SSL series E equalizer sections.
G	The other popular SSL EQ, the series G, has substantially different shelf shapes than found on the E series.



N	A hybird Neve console based on the AMEK/Neve 9098i console, coupled with the vast library of measurements taken by McDSP over the years.
A	Think API 550 with 5 bands, more gain, and adjustable filters, and you have the A mode in Channel G Compact EQ configuration.

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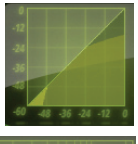
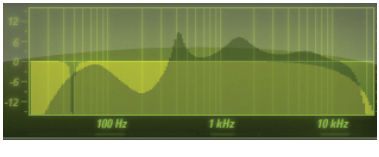
Response Plots



Channel G Compact displays the input/output transfer function of the Compressor/Limiter, as well as the frequency response of the Filter and EQ sections.

The Channel G Compact configurations display the frequency response of the Filter section. The transfer functions are displayed over a 60 dB range. The frequency response display shows a center line at 0 dB, and extends to +/- 18 dB in the visible display.



Console Meters

The Channel G Compact plug-in groups all metering functionality in the center of the user interface. Displayed meters are Input post Input Gain, Compressor/Limiter gain reduction, Compressor/Limiter output post Makeup Gain, and final Output post Output Gain. Gain reduction meters are completely orange. The remaining signal level meters are green for all metered values at and below - 6 dB. Metered values above - 6 dB are displayed in yellow. There are peak LED indicators above each signal level meter (Input, Compressor/Limiter or DYN Output, Output) that will light when the signal level is approximately -0.05 dB. These peak LEDs can be cleared by simply clicking on the lit portion with the mouse. The option to clear all clip meters is available by clicking the clip LED in the plugIn tool bar. Channel G Compact also supports the new ICON plugIn metering facilities.

Using Channel G Compact

A Closer Look at the Compressor/Limiter

The Compressor/Limiter section of Channel G Compact uses the same algorithm and controls ranges as found in Channel G and Channel G Surround. Basic Compressor/Limiter functionality is described below, along with some specific used in music and post production.

Basics

The Compressor/Limiter section is used to reduce the level of an input signal once it rises above the selected threshold. Such an effect is useful to control the dynamic range of a track, impart a different character on a track (to make it more punchy, or smoother), or create certain special effects.

Like the Expander/Gate, knowledge of what the threshold and ratio controls is paramount in mastering the Compressor/Limiter . The threshold determines when the Compressor/Limiter will start to reduce the level of the input signal as it continues to rise above the threshold. The ratio control determines how gradual or drastic this level reduction will be. A ratio of 2:1 means that for every 2 dB the signal is above the threshold, the output will be reduced such that the resulting signal level is only1 dB above the threshold. A ratio of 10:1 means that for every 10 dB the signal is above the threshold, the output level will be 1 dB above the threshold.

Many mixers use compression on every track, while others attempt to not use compression at all, or at least as little as possible.

The timing of the Compressor/Limiter is controlled by the Attack and Release controls. The attack time determines how quickly the Compressor/Limiter begins to reduce signal level once it is above the threshold. The release time determines how quickly the Compressor/Limiter stops reducing the signal level once it is below the threshold.

The transition between no compression and the selected compression amount is controlled by the Knee mode. McDSP has created several positions for practical use in music and post production, ranging from hard knee to soft knee shapes. Several modeled knee shapes are also available.

The Gain control provides up to 24 dB of make-up gain post compression. This control is also extremely useful when the Compressor/Limiter key signal is its own output.

Knee Modes

The Channel G Compact Compressor/Limiter Knee modes are derived from the years of modeling experience at McDSP. Console compressors are amongst the most coveted dynamics processors in the music production business, and along with the corresponding console equalizers, are the heart of the sound of any analog mixing desk.

The Knee control in Channel G Compact has 11 pre-programmed positions ranging from hard knee to gentle knee curves. The affect of this control can be viewed in the transfer function plot display. Additional Knee control positions model specific analog console compressors. Modeled Compressor modes in Channel G Compact are named 'Chan' (SSL Channel Compressor), 'Buss' (SSL Buss Compressor), 'Brit' (Neve 33609C), 'A Soft' and 'A Hard' (API 225 hard and soft modes)

Note the Knee modes in the Compressor section also reset the ranges of the attack and release controls to match those ranges found in the modeled unit. Also the filter section's Q and freq ranges are adjusted to match the ranges found in the consoles these modeled compressors are taken from, if applicable.

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Feed-forward vs. Feed-back Compression

The Compressor/Limiter in Channel G Compact is one of the few in the world that allows the user to choose between the input or output of the Compressor/Limiter. Using the compressed output, often referred to feedback compression, is found in many vintage compressors such as the API 225 compressor. The more common technique found in modern dynamic range processors is feed-forward compression – the use of the input signal as the compression key. In fact, the API 225 is one of the only compressors (along with Channel G Compact's Compressor/

Limiter) that allows the user to switch between feed-forward and feedback compression.

Why should the use of a Feed-back compressor be considered then in today's modern production facilities? This type of compression, while susceptible to pumping or breathing the overall signal level, can be useful in addressing certain dynamic range 'problems'. For example, a suppose you needed to process a lead vocal that has a good deal of dynamic range changes, and is sung in an aggressive style. Heavy compression is needed to limit the maximum signal level, and even the softest of knee shapes does not alleviate the unwanted 'compressed vocal effect' thus rendered. Using the compressor output as the key signal, the transition between the compressed and un-compressed signal is minimally different. Because the key signal is already compressed, the compressor will trigger more subtley, and possibly produce a more desirable effect.

A Closer Look at the Dynamics Filter section

The Filter section of Channel G Compact uses the same algorithms as found in the Channel G plug-in. Filter slope choices are limited to 12 abd 24 dB/Oct.

Basics

The Filter section is comprised of two filters – a Low Filter and a High Filter. Each can toggle a respective high pass filter (HPF) and low pass filter (LPF) modes. The Q/Slope control selects the slope of the HPF or LPF – 12, or 24 dB/Oct. The filter design and topologies used in the Filter section are derived from McDSP's award winning FilterBank plug-in.

Noise Reduction

The use of filters to remove unwanted signal while desired signal is present is common to any audio production. By offering high pass, low pass, and notch filtering, Channel G Compact can effectively eliminate noise while affecting the desired audio as little as possible.

The high pass filter (HPF) passes signal above the selected frequency, and removes signal below the selected frequency at a rate give by the Q/Slope control. At the maximum rate of 24 dB of level reduction per octave, the Channel G Compact HPF is great for removing low rumble, plosive 'thuds' from a dialog, and just cleaning up the bass of a track.

The low pass filter (LPF) passes signal below the selected frequency, and removes signal above the selected frequency at a rate give by the Q/Slope control. At the maximum rate of 24 dB of level reduction per octave, the Channel G Compact LPF is great for removing hiss, strange reflections or any undesirable high frequency noise.

A Closer Look at the Equalizer Modes

The G Equalizer (and G Console equalizer section) is one of the most configurable equalizers in the history of professional audio. Not only are the frequency response curves modeled, but the control calibrations and ranges are also selectable from a single users interface. This feature, coupled with Channel G Compact's integration with control surfaces like the ICON work surface by Digidesign, transform the digital audio workstation into an actual mixing console.

Basics

The G Equalizer has 4 bands of configurable EQ.

The equalizer section is 4 bands of parametric EQ (LF, LMF, HMF, HF). The LF and HF bands have a mode control to switch them from parametric to shelving EQ. The gain range in each band is +/- 18 dB. The frequency range varies in each EQ mode as described below.

There are several equalizer modes that allow the user to switch from the pre-programmed modes designed by McDSP engineering, to other modes that model some of the most popular analog mixing console EQ strips.

Music and Post Modes

MUSIC	The shelf shape in the 'Music' EQ console mode are designs unique to McDSP, based on one of the most popular Peak-Slope-Dip settings from our award winning FilterBank plug-in. The Music and Post EQ modes are the only modes that retain shelf shape control via the Q control in the LF and HF bands. The relatively steep curve and moderate peaking at high Q settings is great to carve out needed adjustments to a mix. Low Q settings morph the shelf into a gradual, more vintage styled slope with a slight undershoot in the non-shelved band. The parametric bands have a good Q range (1.0 to 12.0), and the band overlap is geared towards the creative equalization needs of music production.	**Freq ranges :** LF: 20 to 400 Hz LMF: 200 to 2000 Hz HMF: 800 to 8000 Hz HF: 2000 to 20000 Hz
POST	Another design unique to McDSP, this shelf mode has the steepest of all the various EQ shelf modes available in Channel G Compact. The Q control adjusts the amount of undershoot in the shelf, allowing the shelf boost/cut to be further accented by the 'scoop' just after (low shelf) or just before (high shelf) the main boost/cut. The parametric bands have the widest Q range of all the modes: 0.4 to 16.0. The overlap is nearly complete, with the bands' low ranges only 40 Hz apart, and each spanning 2 decades (the base frequency to the base frequency times 100).	**Freq ranges :** LF: 40 to 4000 Hz LMF: 80 to 8000 Hz HMF: 160 to 16000 Hz HF: 200 to 20000 Hz
E	This EQ config is derived from measurements taken of various SSL series E equalizer sections. Note the control ranges all match the original SSL console, and even the HPF and LPF sections will adjust their ranges to that of the SSL consoles.	**Freq ranges :** LF: 30 to 450 Hz LMF: 200 to 2500 Hz HMF: 600 to 7000 Hz HF: 1500 to 16000 Hz
G	The other popular SSL EQ, the series G, has substantially different shelf shapes than found on the E series.	
N	A hybird Neve console based on the AMEK/Neve 9098i console, coupled with the vast library of measurements taken by McDSP. McDSP has evaluated many original Neve units as well as re-makes. The shelf shapes are very much like the 9098i, while the parametrics employ much of the 'smarts' McDSP has come to understand about this important lineage of equalizers.	**Freq ranges :** LF: 30 to 300 Hz LMF: 100 to 1000 Hz HMF: 1500 to 15000 Hz HF: 2000 to 20000 Hz

A	Think API 550 with 5 bands, more gain, and adjustable filters, and you have the A mode in Channel G Compact EQ configuration. The proportional Q is modeled dead on, while the gain is extended to +/- 18 dB. The Q values track exactly to the originals up to 12 dB, and are then extrapolated to the new 18 dB level. API has always done a great job of providing useful tools (EQ and Compression), while restricting the control ranges to keep the user from making a bad sound.	**Freq ranges :** LF: 30 to 400 Hz LMF: 75 to 1000 Hz HMF: 800 to 12500 Hz HF: 2500 to 20000 Hz

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Channel G Compact Plug-In Reference Guide

Channel G Compact Specifications

Parameter	Settings	Function
INPUT		
IN	-24 to +24 dB	Amount of gain applied to the signal before it reaches the Expander/Gate and Filter sections.
COMPRESSOR/LIMITER		
KEY	Output of the Compressor/ Limiter itself, Original Input, Side Chain (key) Signal, Output of the Filter section, .	Selects the signal used to cause the Compressor/ Limiter to begin reducing signal dynamics range once it exceeds the selected threshold. The choices are the original input, the side chain (key) signal, the output of the Filter section, or the output of the Compressor/ Limiter itself (feedback).
KNEE	hard 10 soft modes 5 modeled modes	Shape of the compression curve. The greater the Knee control value, the smoother the transition into the compression zone above the selected threshold. There are several additional Knee control modes that model specific compressors found in analog mixing consoles.
RATIO	1:1 to 1:100 (Limiter)	Slope, or input to output ratio of the Compressor/Limiter. When this control is near its maximum (100:1) the process acts as a Limiter.
ATTACK	0.01 to 100 msec	Rate at which the Compressor/Limiter begins to reduce the dynamic range of the input signal as it exceeds the selected threshold.
RELEASE	100 to 5000 msec	Rate at which the Compressor/Limiter stops reducing the dynamic range of the input signal as it goes below the selected threshold.
GAIN	-24 to 24 dB	Amount of makeup gain applied to the signal after the dynamic range reduction. Note that this gain occurs before feedback in Output Key Mode.
THRESH	-45 to 0 dB	Signal level that must be exceeded in order for the Compressor/Limiter to start reducing the input signal dynamic range.
COMP/LIMITER IN	ON, OFF	Switch that engages or bypasses the Expander/ Gate algorithm.

Parameter	Settings	Function
FILTERS		
FILTER INPUT	IN, Key (sidechain)	Selects the input to the Filter section – the original input signal or the side chain input.
TYPE	Notch, Low Pass, High Pass Filtering	Toggles between high pass filter (HPF) and notch filter types in the Low Filter, and between low pass filter (LPF) and notch filter types in the Hi Filter section.
FREQ	20 to 20,000 Hz	Center frequency or cutoff frequency of the filter.
Q/SLOPE	-12 and -24 dB/Oct for Filters or 4 Notch widths	Width of the notch filter or slope of the HPF or LPF filter.
FILTER PATH	INLINE, INLINE disengaged	When inline, filters offset signal output signal directly. If not inline, the filter output is only used on key signals for the Expander/Gate and Compressor/Limiter.
OUTPUT		
Ø (PHASE)	ON/OFF	Polarity (phase) of the final output, ON is 180° from original.
OUT	-24 to +24 dB	The amount of gain applied to the signal after the Compressor/Limiter Makeup Gain.
EQUALIZER		
Q	various ranges pending EQ mode, 0.4 to 16	The width of the parametric EQ bell, or slope of the shelving EQ in Music mode and scoop in Post mode. Note that Q is not available in models with gain dependent Q (Model A).
FREQ	various ranges pending EQ mode 20 to 20,000 Hz	The center frequency or cutoff frequency of the parametric or shelving EQ.
GAIN	-18 to 18 dB	The amount of boost or cut in dB for each EQ band.
TYPE	Parametric, Shelf	(LF and HF only) Toggles between parametric and shelving EQ.
BAND BYPASS	IN/OUT	Round Green button is lit if that band of EQ is in the signal path.
EQ BYPASS	IN/OUT	Round Green button in lower right corner of user interface is lit if entire EQ is in.
MODES	Music, Post, E (SSL series E), G (SSL series G), N (Neve), A (API 550)	Selects the way in which the EQ operates. There are Music and Post equalizers, as well as modeled equalizers from world class mixing consoles.
OUTPUT		
OUT	-24 to +24 dB	The amount of gain applied to the signal after the LPF (last of the seven filter and EQ bands) filter band.

DSP Delay

The delay incurred by any of the Channel G Compact plug-in configurations is ZERO samples. On HD systems the delay is 1 (ONE) sample. There is a 2 sample delay from the TDM connection to the Channel G Compact plug-in. This is the absolute minimum number of delay samples a TDM plug-in can have. The McDSP plug-ins are designed in this manner to provide the user with the closest analog mixing console experience possible (analog inserts such as EQ and compression do not cause a processing delay when inserted into a track).

DSP Usage

HD and HD Accel DSP hardware

The TDM versions of the Channel G Compact plug-in configurations use a varying amount of DSP resources for each Channel G Compact configuration. The table below is a listing of these DSP usages. The DSP Allocator utility provided by Digidesign™ (or the DSP Usage display in Pro Tools™ for PT version 5.0 and later) may be used to display dsp resource allocation when Pro Tools™ is running. Note there is no MIX hardware support for Channel G Compact.

Maximum Instantiation Counts at 48kHz

Configuration (Mono)	# Instantiations per DSP on HD systems	# Instantiations per DSP on HD Accel systems
G CONSOLE COMPACT	6	14

Configuration (Stereo)	# Instantiations per DSP on HD systems	# Instantiations per DSP on HD Accel systems
G CONSOLE COMPACT	3	7

Many of the Channel G Compact plug-in configurations can operate on the same dsp, depending on the configuration's dsp requirements. Percentages of each HD or HD Accel DSP used by a single instantiation of a Channel G Compact plug-in configuration are shown below:

Percentage used at 48kHz

Configuration (Mono)	Use percentage per DSP HD systems	Use percentage per DSP HD Accel systems
G CONSOLE COMPACT	16%	17%

Configuration (Stereo)	Use percentage per DSP HD systems	Use percentage per DSP HD Accel systems
G CONSOLE COMPACT	30%	13%

For HD systems, Channel G Compact supports all higher sample rates (up to 192 kHz). However due to the DSP usage of some of the larger Channel configurations, not all configurations are available at the higher sample rates. For 96 kHz operation the dsp usage is doubled (x 2). For 192 kHz operation the dsp usage is quadrupled (x4).

ProTools MIX DSP hardware

McDSP has decided to remove Mix support from its entire product line, as Digidesign is no longer actively investing development into the Mix hardware platform.

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